



Agenda

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DATE 12-5-12 TIME 12:54pm

SERVEL BY Brian Drypolcher

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SANTA FE RIVER COMMISSION

Thursday, December 13, 2012, 6:00 – 8:00 p.m.

City Councilors' Conference Room, City Hall

200 Lincoln Avenue, Santa Fe, NM

505.955.6840

1. ROLL CALL
2. APPROVAL OF AGENDA
3. APPROVAL OF MINUTES FROM NOVEMBER 8, 2012
4. INFORMATION
5. DISCUSSION/ACTION ITEMS
 - a. Discussion: Regarding the draft Reclaimed Wastewater Resource Plan (Claudia Borchert)
 - b. Discussion: Santa Fe River Fund, status update, the Voluntary River Conservation Fund (B. Drypolcher)
5. MATTERS FROM COMMISSIONERS, MATTERS FROM SUB-COMMITTEES
6. MATTERS FROM STAFF
7. CITIZENS COMMUNICATION FROM THE FLOOR

ADJOURN

Persons with disabilities in need of accommodation, contact the City Clerk's office at 955-6520, five (5) working days prior to meeting date.

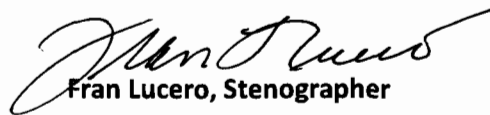
**Santa Fe River Commission
Index
December 13, 2012**

Topic	Action	Page #
Cover Page		1
Call To Order/Roll Call	Chair Jacobi called the meeting to order at 6:00 pm, a quorum was present.	2
Approval of Agenda	Mr. Ellenberg moved to approve the agenda as presented, second by Mr. Buchser, motion carried by unanimous voice vote.	2
<i>Approval of Minutes: November 8, 2012</i>	Mr. Ellenberg moved to approve the Minutes as presented, second by Mr. Buchser, motion carried by unanimous voice vote.	2
Discussion Items a. Discussion: Regarding the draft Reclaimed Wastewater Resource Plan (Claudia Borchert) b. Discussion: Santa Fe River Fund, status update, the Voluntary River Conservation Fund(Brian Drypolcher)	Informational, no formal action taken.	2-9
Matters from Commissioners, Matters from Sub-Committees	Informational	9
Matters from Staff	Informational	9-10
Citizens Communication from the Floor	Informational	10
Adjournment	There being no further business to come before the Santa Fe River Commission, meeting was adjourned at 7:10 pm	10
Signature Page		11
Exhibits	Exhibit A – Memo and Draft Plan	Exhibit A

CITY OF SANTA FE

SANTA FE RIVER COMMISSION

Minutes



Fran Lucero, Stenographer

12/13/2012

DRAFT UNTIL APPROVED

**SANTA FE RIVER COMMISSION
MINUTES
Thursday, December 13, 2012, 6:00 – 7:10 p.m.
City Councilors' Conference Room, City Hall
200 Lincoln Avenue, Santa Fe, NM**

1. ROLL CALL

The meeting of the Santa Fe River Commission was convened by the Chair at 6:00 pm, City Councilors' Conference Room, Santa Fe, New Mexico. A quorum was present at time of roll call.

Present:

Jerry Jacobi
Richard Ellenberg
Jim Cutropia
Phillip J. Bove
John R. Buchser

Sam Gerberding
Dale Doremus

Others Present:

Claudia Borchert, Staff
Brian Drypolcher – Staff Liaison
Nicole Lichen, Audience
Anna Serrano for Fran Lucero,
Stenographer

Not Present-Excused

Melinda Romero-Pike

2. APPROVAL OF AGENDA

Mr. Ellenberg moved to approve the agenda as presented, second by Mr. Buchser, motion carried by unanimous voice vote.

3. APPROVAL OF MINUTES FROM NOVEMBER 8, 2012

Mr. Ellenberg moved to approve the Minutes as presented, second by Mr. Buchser, motion carried by unanimous voice vote.

4. INFORMATION

None

5. DISCUSSION/ACTION ITEMS

- a. Discussion: Regarding the draft Reclaimed Wastewater Resource Plan (Claudia Borchert)
The Chair provided his appreciation for the Wastewater Resource Plan.

Ms. Borchert provided a memorandum prepared for the PUC which includes the Executive Summary, the Table of Contents, the three Reclaimed Wastewater (RW) portfolios and the Strategies/Implementing Actions (Section 8) from the draft Reclaimed Wastewater Resource Plan.

Ms. Borchert went through the packet of information with the committee. Included are the key findings of the rankings which are the three colored graphs and Section 8 which are the Strategies/Implementing Actions that are being proposed by this plan. The link is provided to download the whole plan. <http://nm-santafe.civicplus.com/index.aspx?nid=2576> Please note that this is still work in progress as Claudia is working through the comments she has received and incorporating them from the first round. Any kind of comments whether editorial or such are welcomed in order to get better feedback. The process for the plan is that it will go to various committees now in December, Public Hearing in January, meet with the various city councilors who don't serve on PUC and back to the PUC idealistically in February and/or March and then start the final trek through adoption. A date has not been set for the Public Hearing.

This has been a good collaborative process between the working groups which includes a diverse group of members, memberships are listed on the first full paragraph on page 2. Otherwise, the process which was followed is kind of a standard process for evaluating options. It could be engineering options, it could be water supply options, the process being the first we figure out how much of a resource we have. Part of the reason we are redoing this plan is because the assumptions made in the 1998 plan about how much water we would have were grossly overestimated on the availability of water and therefore made it very easy to allocate a large pie amongst all the people that wanted it. This time we aired on the opposite side, which is our basic assumption is that the conservation targets that the water conservation committee is shooting for, which is a reduction between 1 mgd every other year and as a result of that conservation there is less reclaimed waste water available. It is the same amount now available 40 years out because even though population has been occurring the population has been making do with the same amount of water that we are producing now which has been true for us for about 10 years. It isn't really a farfetched assumption. That is the assumption that is being built in to the availability of reclaimed wastewater. That ends up being something like 5640 acre feet a year or 467 acre feet a month. That is the available water that we are assuming.

Next part of the process was about the options. A combined list of options included the current users as well as potential future options. Started with a list of twenty-one, brainstormed about requirements for the data species act. Options reduced to 15 which can be seen on the table chart on page 2. The options were then ranked according to criteria that were adopted by the governing body. Approved criteria was (ensure community acceptability, improve water supply reliability, protect the environment and manage costs). They were also ranked based on a public survey, 76 responded and of those 4 criteria they let us know which were more important to them and of those that were more important; improve water supply reliability and the protect the environment scored much higher than the other two. When you weight them

according to that the ranking is reorganized once again. One or two more reorganizations were done, once the projects were ranked then there are some projects that we have to do because they are either contract or they are a permanent requirement and those are the first three listed on this table. (BW Permit Compl., USFS Livestock Water and SF Country Club GC). They are all required uses, non-discretionary. They pulled projects to the top that are based on city policy with the assumption that if the city has made a policy choice on these matters in the past they are likely to want to continue those policies in the future. Of course making it very clear that those are strictly policy priorities and can be changed by the same governing body that made them in the first place. Those projects would be 4-8. (MRC stands for Municipal Recreational Complex), the on demand sales that happen at the wastewater treatment plant that is basically by the conservation code requiring construction purposes to use reclaimed wastewater for things like dust control vs. potable water. The land fill also uses the water for dust control, the Marty Sanchez Golf Course and the Santa Fe Downs. Reflected in 4-8 was the original ranking but the ranking within those 5 is still based on the ranking that happened originally but they are just pulled up because there is policy to support those. The rest of them, 9-15 is the ranking of projects that aren't either required or don't have municipal policy behind them and that shows the ranking of them.

After we have a ranking list for these options, the next task is essentially to figure out how much water there is and how to fill in the needs of these various uses.

(Description on the graphs included in Exhibit A)

The red line at the top is basically the available effluent in monthly increments. At the bottom you fill up the priorities so the priorities on that table before were the first priorities then you stack on top of it all the municipal uses (listed), and then you stack on those the other uses. In the first timeframe you can see that all the uses can be met except for the Santa Fe River downstream option does not have all the water needs in June and the Santa Fe Equestrian Center cannot get all the water it needs in June. Other than that, all the uses can be met.

A couple caveats about the budget associated with this. We largely use budgets as far as we knew of what people were actually using. When we came out with this draft we got a call from the MRC which said that they felt like the budget that they were allocated was way too real and they have since provided their use numbers from 2008, I was using their use numbers from 2011. In 2008 they were better managed and they have asked us to use those 2008 numbers which we agreed to do. They also asked for a reserve budget on top of their budget that was based on use and that will be a topic for the working group to discuss when they meet in January on how to handle the idea that probably all of these budgets are fairly tight. How do we

accommodate the idea that it might be hotter and dryer with longer irrigation seasons in the future? This has been recognized but it hasn't necessarily been built in to this plan right now.

Q&A:

Richard Ellenberg: The downstream that Santa Fe River used is a little bit of irrigation around the airport but mostly for the agricultural uses, correct?

Claudia: That is a good question, we use to have a bunch of options that would kind of stack up to the first quantity of water that we thought the rural protection zone needed with some other increments on top of it. After wrestling with this, the working group decided to lump all of the water. According to an irrigation season curve, .5 million gallons in the winter time up to 3 million gallons in the summertime and the 3 million gallons in the summertime is a fuzzy number roughly based on the fact that Dave Harrington said that before the beavers took over the rural protection zone in 2003 that amount of water would have been enough for all the downstream irrigators needs during the summer. One of the recommendations of this plan is to get a better handle on those numbers as we all know that we are really not operating with a lot of information. Once this amount of water has been allocated there could be this whole idea of private slows like we did for the Santa Fe River developed for this and it doesn't make sense to do that without the foundational science. We really need more information before we can figure out what is the right amount of water and why, depending on what you are trying to achieve.

Mr. Ellenberg: I didn't understand what the upstream Santa Fe River was?

Claudia: That was the option to take water and pump it upstream somewhere. That was one of the options that the Mayor in particular was very much interested in, it did not rank well in this whole process, partly because it is expensive to build pipelines and it is expensive to continually pump water. It didn't have a particular destination in mind. When we were doing the cost estimate it was more like \$1 sign vs. \$3 signs not like x amount of dollars compared to y amount of dollars, we didn't have that kind of information

Mr. Ellenberg: Is the Santa Fe River future potable, I thought we might use it for drinking water.

Claudia: What it is saying here is that because currently we have no way to make use of that potable water. That is water that the Santa Fe River will benefit from but when you flip pages to 2020 that is when the Santa Fe River water is strictly dedicated to the river and the rest of that water does get diverted away from the river for potable supply. It is a place holder for future use in a different way.

Claudia moved on to the next future graph. The main difference here is that the idea is here by the near future, 5 years out and upstream Santa Fe River option could be built so could the swan park and so could the SW irrigating parks. They could make use of the water. If all these projects were built how would that change the picture? The bottom of the graph stays pretty much the same; the Santa Fe River option stays pretty much the same still with a shortage in June. The upstream Santa Fe River option should be implemented; can't get enough water in 3 months in the budget that was proposed here. In May, June and July it would not have enough water and the equestrian center should the city choose to meet that demand also can't be met in June, July and August. Because of the ranking of the future potable water supply it had a hire ranking then everything above it. Claudia referred to the blue water in the middle which would be piped. You can see where the upstream Santa Fe River option and the equestrian center option are not met by the amount of wastewater available in the 2020's.

Note from the PUC; 1) there is an agreement with the city/county that delineates service area, 599, I-25 annexation areas and there is a reluctance to take a city resource and provide water to a facility outside those boundaries, a non-municipal facility. Even though it would be revenue generating the mind right now says, the county should figure out a way to provide water to a facility that it is in that county service area.

The working group also recommended that all recurring wastewater users pay for the use of their resource and I think that is about the 4th or 5th time that has been brought up with the Council. The reality of how it works now is that everyone who pays wastewater rates is paying for this water to go wherever it goes. Marty Sanchez is not paying for that water so the golfers who use the Marty Sanchez are benefitting from the wastewater rates. The same is true for the municipal playing fields. There has not been a lot of interest in changing those revenues. In the report under each of the options we used the rate of \$3.03 per 1,000 gallons to show the market value for that water in its current use, even if it is not actually generating that amount of money.

Strategies: The working group has had a great collaboration of a lot of different perspectives. As a result of the discussions we've had over the last years these strategies are quite diverse. Some of them are no brainers and all of them are things that people can stand behind without a lot of controversy. They set the tone for what is important when you think of grouping wastewater as a source of water. In the underlined italic phrase are the strategy and the implementing bullets under them. We have talked about understanding the hydrology around the Santa Fe River; where does the water go once it leaves the wastewater treatment plant. In general, more accurate measuring of all these resources throughout the system; often I would have five different numbers for the same resource for a user, I had to average them, and there is not very good accounting right now. Measuring; you need to

make sure that the meters get calibrated regularly and then actual recording of that information, it has not happened very readily yet. Metering and measuring are important. We definitely recognized that the management right now is haphazard and the staff we have now is like a majordomo who decides right now for example, right now my flow is low I better turn off this user and let this user take the water and then the flow increases again now everybody can pump. By using the 2 million gallon tank that is out there that use to be Las Campanas soon to become the city's and by a little bit of thought in to how to optimize system use, that will help a lot with the efficiency and the regularity use. You could also wrap into that the idea of pumping water with off peak power rates so it can be more cost effective for people use.

There was a lot of friction around the risk associated with the reuse of this water in the application that it currently has. Claudia detailed the rules for review. These regulations may not adequately protect the city from the risk associated with using reclaimed wastewater. This is something that hasn't been dealt with; the wastewater treatment staff were following all the regulations that they need to be but the question is are the state regulations really adequate to protect the public from exposure. That is something well beyond the capability of this report. It is interesting that it has been raised.

In closing Claudia asked the committee to review the draft and provide her with any feedback.

B. Drypolcher said that this really did get the attention of the councilors at the PUC meeting, they were engaged. Just before Claudia did her part with this report there were reported informational items about the current drought, projections for climate change and before we got this nice snow fall, people were on edge about how warm and dry things had been. Their attention was heightened by the context of over 2 years of record drought. There was a heightened appreciation of what this is as a resource now for the city and what it can become in the future is even more of a resource. There was a comment from one of the City Councilor's about the idea of potable water that is in the future, we are not there yet that is years away before we need to go there. Need; that is true, it isn't a water supply need at this point in time but the concept of resting the aquifer and the concept of opportunities to juggle things in a way that work towards the overall sustainability of the portfolio, why not now?

Claudia added that as far as the potable water supply piece goes, there are really three options that seem feasible, one is to take the reclaimed wastewater and pipe it down along the Buckman diversion corridor down to the Rio Grande and for every drop you put back you can take a drop. That has been the traditional return flow credit option that has been floating around in the councilor's minds for the last 10 to 15 years. The sooner you get it on

line the sooner you benefit from your waste product. Another one would be to stick it in the aquifer and pump it out again and the third would be more of a direct reuse with some additional treatment and then piping it to the Buckman Regional water treatment plant for mixing with the well water that comes up and putting it in to the system so more of a direct reuse. There too, the third option uses a lot less power, has less pumping cost but you have to figure out how to safeguard the drinking water supply. This plan does not make a decision on which of those should be pursued but rather said that should be looked at in Engineering Feasibility Study as it is well beyond the capability of the group.

B. Drypolcher commented about the other thought about the strategy in this report is the theme for resource has value, you can sell it. If they are not interested in selling it to MRC or to Marty Sanchez you could hand convert it into potable water, now you have paying customers. The resource becomes more valuable. I don't know how the math works out because you have to treat it, there is a cost of treating it to get it to a point where you can sell it that way. But it does have the potential of turning in to a commodity. But if you are not willing to charge for any current scenarios you would certainly be charged for future scenarios.

The Chair expressed his thanks to Claudia. It was noted that there will be another work group meeting before the public meeting.

- b. Discussion: Santa Fe River Fund, status update; the Voluntary River Conservation Fund (Brian Drypolcher)

Reference was made to the draft the commission had reviewed at the last meeting. That draft is moving forward; the Mayor last night at City Council introduced it. The plan is for it to go to PUC on the 2nd, it will go to the other two committees during January. *(Brian to send the actual dates of meetings, a copy of the packet that will be presented to the PUC to the commissioners via email)*. Late in January it would be published for a Public Hearing according to ordinance but it would not actually be a public hearing until the end of February. So the amendment is moving forward.

B. Drypolcher in addition said that regarding the SF River Fund; that getting the amendment to the current ordinance changed is more urgent part at this point so we can freeze the fund and we won't have more monies coming in to the fund that are locked in to be spent on water rights. Trying to get the amendment to the ordinance through quicker.

With the above mentioned task at hand, time has not been available to the other project of buying water rights. Discussion continues with B. Drypolcher and Marcos , he is exploring a couple different things, including how acquisition of water rights might work with transferring those water

rights in to the states strategic water reserve, that would be one mechanism where those water rights might end up. The other front and follow up to Mr. Ellenbergs' question; leasing some water rights and using as the grounds to file an application of State Engineer to release water for the purchase of the river, which is what we want to do and the proposal of getting outside counsel to assist with that. In discussion with Marcos, he and Mr. Drypolcher would move forward with what is currently authorized by the ordinance; it would not include hiring outside counsel to help with this particular aspect. If this is something that the commission wants to pursue you have to go around staff through the channels made available for the River Commission; letter to the City Manager requesting this action that the city pursue in this way and look for outside counsel to help with the initiative. B. Drypolcher stated that in his staff position, this is not something that he can pursue but the River Commission could pursue it.

Phil Bové provided an update on the advertised water rights, La Cienega. It was noted that Mr. Bové had spoken to a Broker and at that time he wasn't totally aware of what kind of water it was until he got the State Engineer's file, now he knows it is well water. These people have about 9 acre feet of water rights and they want to sell 5 acre feet and the family has put forth the price of \$35,000 per _____ acre. The broker thinks that this is negotiable. It would be difficult to move the water upstream. Marcos will review this information and a report will be brought back to the commission.

6. MATTER FROM COMMISSIONERS

The Chair announced the Riparian Council Awarded the Public Awareness Education Award to the City of Santa Fe, Claudia, Brian and the Santa Fe River Commission. The Mayor, B. Drypolcher and the Chair went to the Riparian Council to receive that award for our efforts. There was an article in the Albuquerque Journal.

The Chair noted that he wrote a letter to the traditional farmers organization thanking them for the tour that the Commission members took.

On Tuesday there was a Water Quality Control Commission meeting on the new stream standards revision for the Santa Fe River. That meeting went well, the state did a good job of presenting their case, Felicity and Alex spoke but no decision has been made yet. Claudia added that she heard that a decision had been made and it passed.

7. MATTERS FROM STAFF

At the last meeting there was a request for staff to get some information on the status of wetlands and status of wetlands with respect to the rural protection zone. NMED could not make it with the short notice to get to this meeting but they have committed to send a representative to the January

meeting. Brian let them know that the commission wanted to hear about the status of wetlands, more nuance things about how long this wetland has been there. At what point does it become a real wetland and also if by any chance if they had any knowledge of where FAA faced off with the wetland, were there tradeoffs or conflicts that needed to be resolved between Airport Safety and adjacent wetlands and anything they could bring to us in that regard.

Airport: B. Drypolcher had an email exchange with the Jim Montman, Airport Manager about the hazard mitigations of assessment and apparently we are very close to seeing a published wild life hazard assessment. There was a draft that was circulated, there were some key missing pieces apparently, it went back to the consultant and as Jim described it to Brian, the sub-consultants have now given it to the higher engineering consultant for final review and Jim expects to have it in his hands very soon.

The Chair asked Brian to share what the key missing ingredient was in the report. It had to do with them not being totally clear about what the city did and did not have control over. Thank you for making this a part of the record.

8. CITIZENS COMMUNICATION FROM THE FLOOR

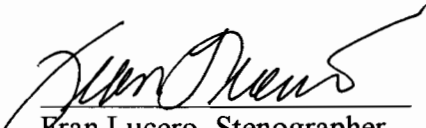
Nicole Lichen: Attended the Camino Real Park opening and walked the length of it and looked at all the mobile home parks and she asked herself, "are they on city sewer?" Wouldn't it make sense to do the micro sewage treatment plan, stepping it back from the waste water treatment plan because we are already releasing water from the treatment plant into the river at that point and it is not far upstream that the Camino Real Park is and would it make sense to start thinking that if we wanted to get water in the river and have wetlands there to have treatment plants upstream at intervals and to start closer to the treatment plant because we already have a precedence for it. I am just for water however we can get it and I am aware of the liability issues.

9. ADJOURN

There being no further business to come before the Santa Fe River Commission, the meeting was adjourned at 7:10 pm.

Signature Page:

Jerry Jacobi, Chair



Fran Lucero, Stenographer

Exhibit A

City of Santa Fe, New Mexico

memo

DATE: December 5, 2012

TO: Public Utilities Committee

VIA: Brian K. Snyder, Public Utilities Department and Water Division Director
Rick Carpenter, Water Resources and Conservation Section Manager *RC*

FROM: Claudia Borchert, Water Resources Coordinator *C*

RE: Discussion of the draft Reclaimed Wastewater Resource Plan (RWRP)

Item and Issue: Draft Reclaimed Wastewater Resource Plan

Included in this PUC packet is the Executive Summary, the Table of Contents, the three Reclaimed Wastewater (RW) portfolios and the Strategies/Implementing Actions (Section 8) from the draft *Reclaimed Wastewater Resource Plan*. To save resources on a draft report, the rest of the plan will be emailed to PUC members separately and is available on line from the Reclaimed Wastewater Resource Plan page at: <http://nm-santafe.civicplus.com/index.aspx?nid=2576>.

Guide to the plan:

- Section 2 discusses the current management and regulatory environment of RW and recognizes the potential risk associated with exposure to RW.
- Section 3 identifies the assumptions embedded in the plan.
- Section 4 describes the 40-year projections of RW availability.
- Section 5 lists the RW use options, identifies the associated RW flow budgets and estimates the value of the resource use.
- Section 6 analyzes and ranks the RW options based on criteria and a methodology approved by the governing body in May 2012.
- Section 7 builds three temporal (present, near-future and 2020s) RW portfolios based on the order established in Section 6.
- Section 8 lays out RW strategies and associated implementing actions.
- Appendices: Supporting documentation including a letter from the Santa Fe River Traditional Communities Collaborative, two resolutions from the Santa Fe County Commission, the scoring, and the initial options list.

Background

The process of updating the RWRP began in May 2011. The need germinated from the governing body's interest in allocating RW to new uses (e.g. Southwest Area Node Park and Tierra Contenta purple pipeline) at the same time that Santa Fe River downstream users became concerned by a significant reduction in the available stream flow. Furthermore, the projections and allocations of

available RW made in the 1998 Treated Effluent Management Plan (TEMP) were based on gallon per capita of 170 (today the City's gpcd is 107).

To understand the RW concerns, analyze the resource constraints, and develop RW use recommendations, a "working group" (approved by the PUC) of diverse community stakeholders has been convening monthly, including representatives from the City's Wastewater Division, the City's Park and Open Space Division (river and golf course staff), the City's Water Division staff, Santa Fe County, the Wastewater Reuse Advisory Task Force (WRATF), the La Bajada irrigation community, Santa Fe Watershed Association, Jemez y Sangre Regional Water Council, Espanola Basin Regional Issues Forum, The Club at Las Campanas, and civil engineers. The RWRP is the product of this effort.

Key Policy Decisions

Ranking of RW Options:

A key decision is whether to accept the prioritization of RW options (third column) that resulted by applying the approved criteria (ensure community acceptability, improve water supply reliability, protect the environment, manage costs) and the associated performance measures (Section 6 of the RWRP) and then prioritizing non-discretionary uses (the uses ranked '1') and the current municipal uses (ranked 4-8).

Option Number	Option Name	Ranking with Required Uses and Past Policy	Ranking from Weighted Criteria
13	BW Permit Compl.	1	1
14	USFS Livestock Water	1	12
8	SF Country Club GC	1	15
1	MRC	4	3
10	On-demand Sales	5	6
12	Landfill	6	7
7	Marty Sanchez GC	7	9
2	SF Downs	8	11
15	Future Water Supply	9	2
3	SWAN Park	10	4
11	NM Game & Fish	11	5
4	SW Irrigated Parks	12	8
5	Downstream SF River	13	10
6	Upstream SF River	14	13
9	SF Equestrian Center	15	14

Note: The weighted rankings shaded show a change in ranking of at least 3 positions.

While the ranking method is designed to be impartial and reflect the values of the governing body and the community, this is the opportunity for the elected officials to inject preferences that may not be adequately reflected in the chosen screening method. Any changes to the ranking above will also impact the attached RW current, near-future and 2020s portfolio.

Downstream Santa Fe River

This analysis *estimated* the RW flow budget of the Downstream Santa Fe River from 0.5 million gallons pre day (mgd) in the winter to three (3) mgd in the summer. In 2012, a minimum of two (2) million gallons was released to the Santa Fe River. The RW allocation can be modified, depending upon what objectives the flow is trying to achieve (e.g. for viable agriculture, the amount may not be enough; for preservation of the Rural Protection Zone, the quantity may be too much). Any increase in the RW budget during the summer will result in a reduction in one or several of the currently higher-ranked RW uses.

Value of RW

The working group collectively agrees that RW is vital to helping Santa Fe meet its current water supply needs. In an effort to promote conservation of the resource, treat the RW users equally, shift the cost of using RW to those the benefit from its use, and to generate revenue to offset RW production or to implement the recommendations of this plan, they recommend that all users of RW pay equitably for the resource.

Future Potable Water Supply

The analysis indicated that future potable water supply is important; the option ranked 6th before the RW options were rearranged to prioritize non-discretionary requirements and current municipal uses. If the RWRP is approved in its current form, over 2,000 acre-feet of RW is available for future potable water supply. This represents 75% of the year 2045 'gap' identified in the City's 2008 Long Range Water Supply Plan.

Next Steps and Schedule:

December 2012-January 2013

- Seek comments on assessment from the Water Conservation Committee and the River Commission
- Post draft report on the City's website
- Hold final public meeting

February 2013

- Seek approval of final draft RWRP from PUC, other committees and commissions, and the City Council

March 2013

- Implement recommended actions

Requested Action:

Staff is seeking feedback on the draft RWRP and the policy decisions embedded therein.

Specifically:

- Does the ranking of RW uses on page 2 of this memo appropriately reflect the direction of this governing body?
- Does the RW allocation for Downstream Santa Fe option reflect the direction of the governing body, recognizing that it cannot be fully met during June under the current use prioritization?
- Does the governing body wish to initiate the analysis to determine a rate for all RW users?
- Does the governing body wish to pursue the use of RW as supplemental potable water supply source?

REPORT



City of Santa Fe

Reclaimed Wastewater Resource Plan

December, 2012





Table of Contents

Executive Summary	1
1 Introduction	1
1.1 Previous Studies and Related Efforts	3
1.2 Terminology	4
2 Management, Production, Regulations, and Risks	4
2.1 Management of Reclaimed Wastewater	5
2.2 Santa Fe's Reclaimed Wastewater Reuse Quality	6
2.3 Reclaimed Wastewater Use Regulations	7
2.4 Inherent Risks of Using Reclaimed Wastewater	7
3 Assumptions.....	8
4 Reclaimed Wastewater Availability	10
4.1 Past Availability	10
4.2 Current Availability	10
4.3 Future Availability.....	11
4.4 Working with Uncertainty	12
5 Reclaimed Wastewater Use Options	13
5.1 Identifying RW Options	13
5.2 Annual versus Peak Month RW Availability.....	14
5.3 Identifying the Flow Budget for Each RW Option.....	14
6 Prioritizing Options.....	22
6.1 Ranking Options Using Approved Criteria	22
6.2 Ranking Options Using Weighted Criteria	22
6.3 Ranking Options Combining Weighted Criteria with Requirements and Past City Policy	24
7 Reclaimed Wastewater Use Portfolios	26
7.1 Current Portfolio.....	26
7.2 Near-Future Portfolio.....	28
7.3 2020s Portfolio	28
8 Reclaimed Wastewater Resource Strategies and Implementation Actions	31
8.1 Water Supply Theme.....	31
8.2 Economic Theme.....	32
8.3 Water Quality Theme.....	33
8.4 Operational and Management Theme	34
8.5 Stewardship Theme	35
8.6 Green Theme	35



Executive Summary

Reclaimed wastewater (RW) is a vital water resource and helps the City of Santa Fe meet its current water supplies needs. It also may play a critical role in meeting future potable water supply needs. The need for this Reclaimed Wastewater Resource Plan (RWRP) arises from the circumstance that currently **not enough RW is produced during the peak summer irrigation months to meet all desired uses**. This shortfall will be exacerbated in the future, if the City decides to provide RW to anticipated uses that are not current users. To reach this conclusion, broad-brushed assumptions were made about the amount of RW 'needed' for the Santa Fe River. Not only have the Santa Fe River water rights not been adjudicated, the objectives for the river flows are ill-defined, the river system flow dynamics are poorly quantified, and the conditions of the river are continually changing in large part because of beaver activity.

Since the adoption of the previous RW plan (the Treated Effluent Management Plan, TEMP) in 1998, the quantity of available RW has been reduced by 29% because of the City's comprehensive indoor water conservation programs (Figure 2) at the same time that RW use has more than doubled (Figure 2). Based on the City's average production of 1,838 million gallons per year (5,640 acre-foot/year) over the past five years, this RWRP assumes that 1,825 mg/yr (5,600 af/yr) and 152 mg/mo (467 af/mo) of RW is available (Section 3) at a steady daily and monthly rate.

This RWRP considers the City's RW needs currently and through the 2020s. RW availability use is projected for a 40-year period. The roadmap of implementation actions will require multiple years to realize, depending upon available resources. However, the methodology used within this plan can be applied in the future when water resource circumstances arise that were not contemplated herein; as such, the plan has been constructed as a living document.

The RW use options considered in this analysis include current uses: direct sale for dust control and other construction purposes; irrigation of municipal recreational fields at the Municipal Recreational Complex (MRC) and the infield at Santa Fe Downs; irrigation of the Marty Sanchez Links de Santa Fe and the Santa Fe Country Club golf courses; dust control at the regional landfill; watering livestock on the Caja del Rio; irrigation of the education-scape at the New Mexico Game and Fish facility; and for Santa Fe River flows downstream of the City's wastewater treatment plant to support the ecosystem and local agriculture (Section 4). The analysis also includes potential future uses: irrigation of the turf at the Santa Fe Equestrian Center (also a previous use); irrigation of the Southwest Area Node Park; irrigation of turf at schools, the library and other open space along the Southwest Sector effluent pipeline; offsetting the surface water depletions in the La Cienega area caused by the City's pumping of the Buckman well field; piping RW upstream to the Santa Fe River; and future potable water supply (Section 4).

For this analysis, an annual, monthly and maximum peak daily flow budget for all of the RW uses was determined, either based on past usage, contracts, requests, or estimates (Section 4). The options were ranked according to criteria and methodology (Section 5) approved in May 2012, by the Governing Body. Using the ranking methodology and then prioritizing uses that are not discretionary, the options order as follows (the first three retain the same ranking,



because no distinction is made within these uses required by permits or contracts):

1. Buckman Well Field Permit Compliance- 33 mg/yr; 100 af/yr
1. US Forest Service Livestock Water – 1 mg/yr; 4 af/yr
1. Santa Fe Country Club Golf Course- 130 mg/yr; 400 af/yr
4. Municipal Recreation Complex – 46 mg/yr; 140 af/yr
5. On demand Sales for Dust Control, Construction, etc – 31 mg/yr; 95 af/yr
6. Dust Control at Regional Landfill – 4 mg/yr; 12 af/yr
7. Marty Sanchez Links de Santa Fe Golf Course – 127 mg/yr; 390 af/yr
8. Recreational Infield at Santa Fe Downs – 39 mg/yr; 120 af/yr
9. Future Potable Water Supply – approximately 717 mg/yr; 2,200 af/yr
10. Southwest Area Node Park - 19 mg/yr; 57 af/yr
11. New Mexico Game and Fish Educational Landscape – 2 mg/yr; 5 af/yr
12. Southwest Area Irrigated Parks and Open Space – 41 mg/yr; 126 af/yr
13. Downstream Santa Fe River – 600 mg/yr; 1,843 af/yr
14. Upstream Santa Fe River – 177 mg/yr; 543 af/yr
15. Santa Fe Equestrian Center – 41 mg/yr; 127 af/yr

**** *Note: The presented RW budgets are subject to verification*

These option rankings and their monthly RW flow budgets were then compared to the available RW (Section 6) to see if all or only some of the RW needs could be met. The ranking was performed in three different time frames - 'current', 'near-future', and 2020s - so that only those projects relevant to the different timeframes were included within them (Section 6); some RW projects, for example, will not be shovel-ready for five years; others no earlier than ten years. The same ranking method used herein can be used in the future, should new RW alternatives not considered herein emerge and need to be compared to those evaluated herein.

This analysis showed that all but two of the 'current' RW options can be met with the available RW at this time (Figure 9); the exception is that there are insufficient flows to meet the Downstream Santa Fe River alternative estimated three mg/d target flows in June and that insufficient RW exists to meet the Santa Fe Equestrian Center RW requests in May, June and July. In the near future (approximately 2018), the shortfall in RW will be even greater: using the Plan's criteria and ranking method, the Downstream Santa Fe River, the Santa Fe Equestrian Center, and the Upstream Santa Fe River option do not have adequate supply during the summer months.

By the 2020s, when the infrastructure and permits to use RW for potable supply may be ready, no RW is available for the SF Equestrian Center or the Upstream Santa Fe River, and there continues to be insufficient RW to meet the June target flows of three mg/d for the Downstream Santa Fe River. By the 2020s, using the RW that is not needed during the irrigation season, the Plan calculates that approximately 717 mg/yr (2,200 af/yr) of RW will be available for potable supply.

RW is a valued resource. This plan reiterates the recommendation of the 2003 Wastewater Reuse Advisory Task Force that all the users of the RW, municipal, non-municipal, and commercial facilities alike, pay for their RW use (Section 8.2). As a result, all RW users are



treated equitably and RW users have incentive to use the resource more efficiently. Additionally, the costs associated with using the RW resource shifts to those that benefit from the RW use (e.g. sport recreationalists, golfers) and the RW becomes a municipal asset that can help pay for wastewater treatment and/or to implement strategies identified in this plan.

The above ground use of the RW is currently regulated by the New Mexico Environment Department (NMED) through discharge permits. The City's wastewater treatment plant produces Class 1B wastewater, as defined by the NMED Ground Water Quality Bureau Guidance: Above Ground Use of Reclaimed Domestic Wastewater, which can be used for irrigating turf provided that public physical exposure to RW is avoided through access controls, application methods, and setback distances. While the requirements set forth in this guidance document are considered protective of public health and the environment, the water quality standards and requirements may change in the future at which time treatment processes may need to be added or enhanced. Although the current regulations provide safeguards, inappropriate use of RW may result in exposure risk.

To guide current and future decision-making regarding RW, this RWRP identifies the following strategies (Section 8), grouped into water supply, economic, water quality, operational/management, stewardship, and green themes. Section 8 also lists proposed implementing actions associated with each strategy.

Water Supply: ➤ Use RW as a non-potable water supply.

- Use RW to meet Buckman Wells permit offset requirements.
- Use RW to meet some of the City's future potable water needs.
- Measure RW production and use.

Economic: ➤ Value RW as a municipal asset.

- Use RW to generate revenue.
- Seek financial assistance to implement recommendations of this plan.

Water Quality: ➤ Produce high quality RW.

- Minimize the public health risk in land application of RW.

Operational: ➤ Optimize existing RW delivery capacity.

- Develop necessary and equitable contracts, resolutions, and ordinances.
- Determine shortage sharing and emergency guidelines.
- Build a RW reserve into RW allocation.

Stewardship: ➤ Provide adequate flows to the Santa Fe River.

- Collaborate and coordinate with downstream agricultural communities and other stakeholders.

Green: ➤ Use RW efficiently.

- Use low or renewable energy sources for RW transmission and distribution.
- Build resiliency and adaptation into RW planning and management.

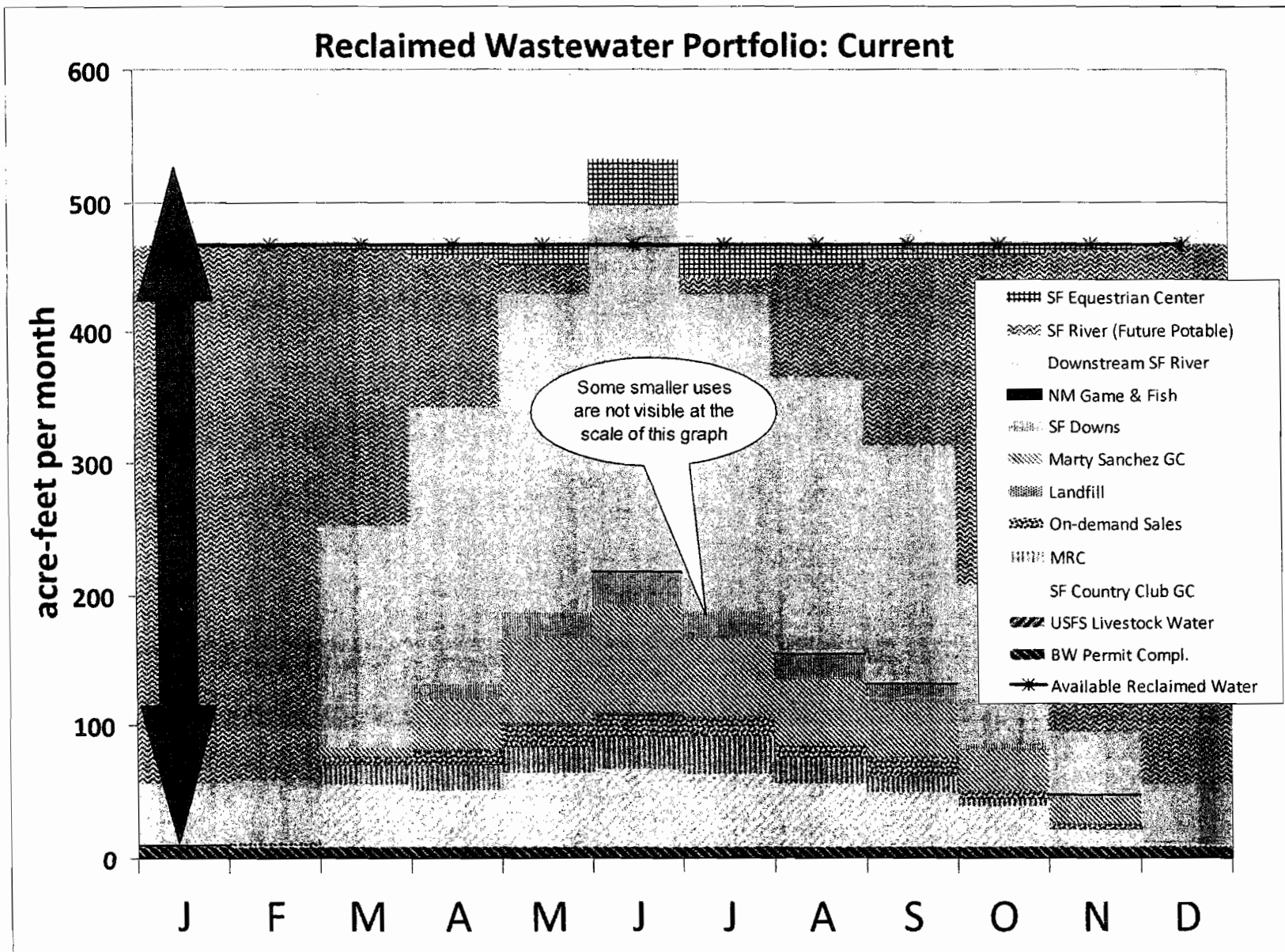


Figure 10: Current Reclaimed Wastewater Portfolio

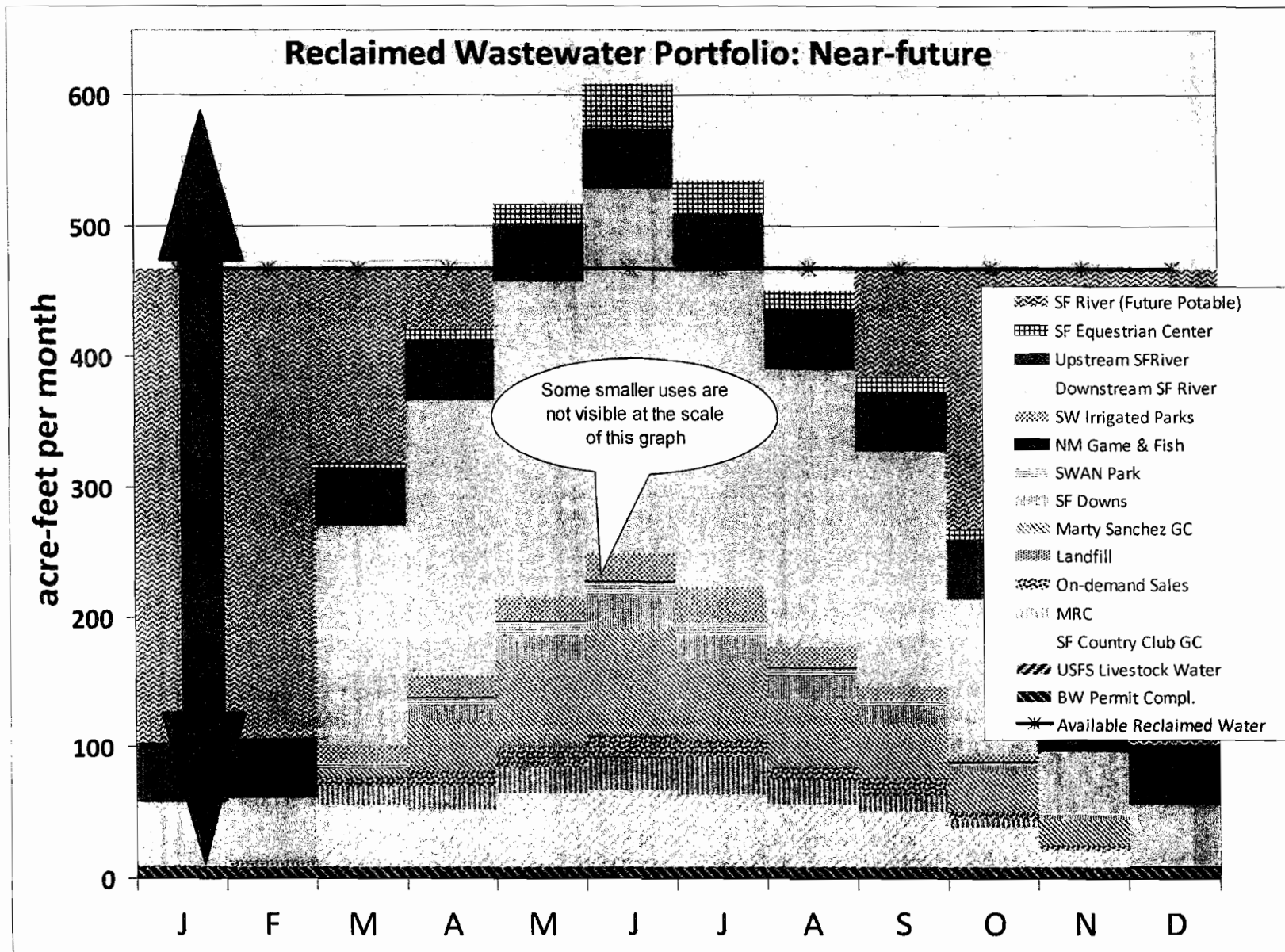


Figure 11: Near-future Reclaimed Wastewater Portfolio

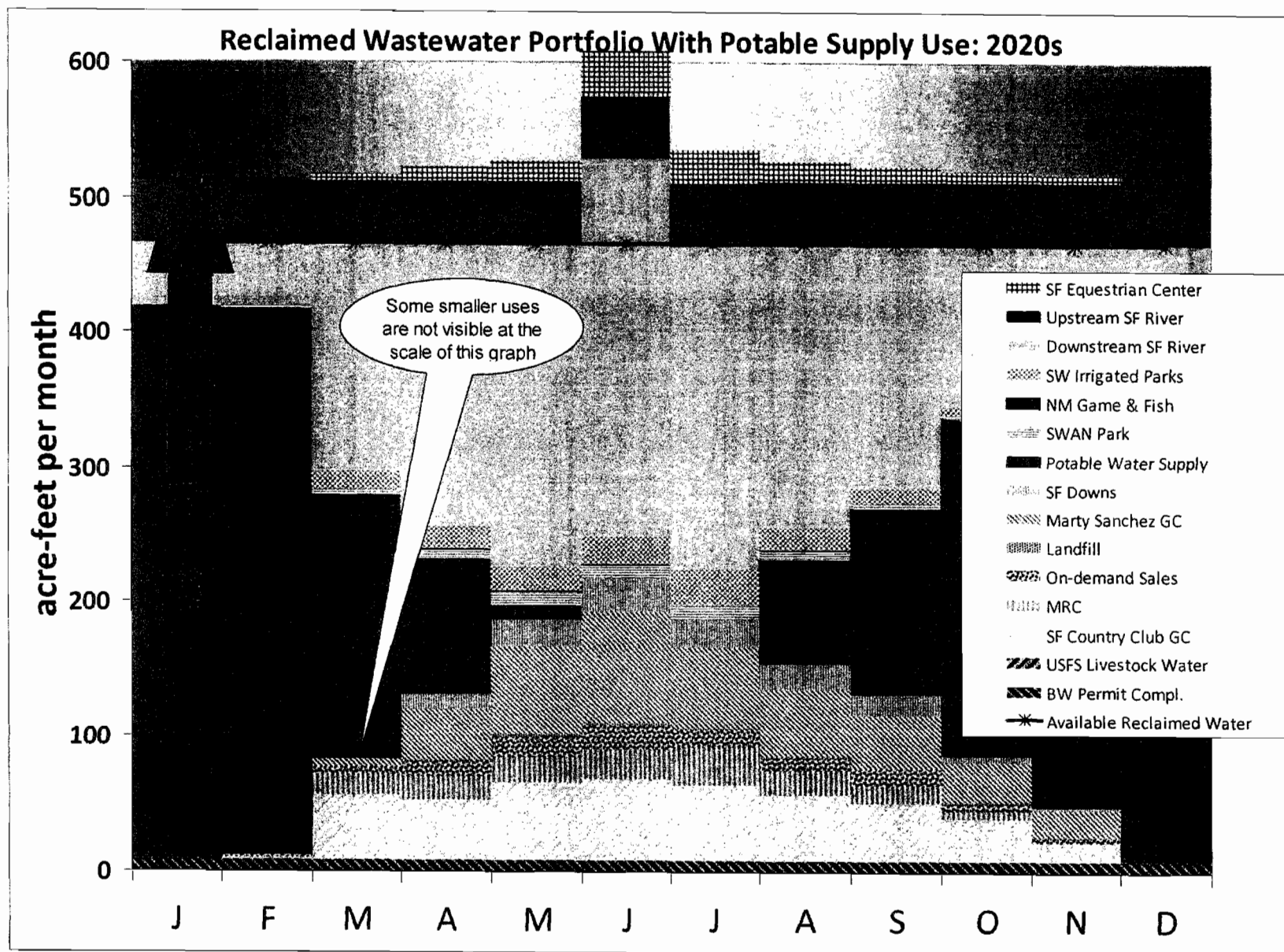


Figure 12. 2020s Reclaimed Wastewater Portfolio



8 Reclaimed Wastewater Resource Strategies and Implementation Actions

Based on the findings of this Plan, the City establishes the following strategies related to the use of RW currently and in the future. The strategies are grouped into the following themes: water supply, water quality, economic, operational and management, 'green', stewardship. Although the policies are categorized under these headlines, they are often interrelated.



8.1 Water Supply Theme

Use RW as a non-potable water supply. The City will continue to use RW as a water supply source. Currently 1.34 mgd (1,500 af/yr) of the City's 10.3 mgd (11,500 af/yr) annual demand (about 13 %) is met by RW, and as much as 17% is supplied during summer months. The supply is used for irrigating recreation turf (playing fields, golf courses, etc), construction, dust control, and with additional treatment could supplement potable drinking sources in the future.

Implementing Actions:

- Use the methodology herein to allocate RW supplies if and when they exceed the amounts assumed in this plan.

Use RW to meet Buckman Wells permit offset requirements. The City will work with the OSE to use released RW to offset the surface water impacts caused by groundwater pumping from the Buckman well field.

Implementing Actions:

- Provide OSE with hydrologic evidence of how the discharge of RW meets Buckman well field permit conditions.

Use RW to meet some of the City's future potable water needs. The City will use RW to meet some future potable water supply needs and recognizes that expeditious implementation of this RW use has hydrological and ecological benefits to the region's water supplies.

Implementing Actions:

- Conduct a feasibility analysis of the options and timing for using RW for potable supply (e.g. return flow credit pipeline to the Rio Grande, direct use with treatment, or aquifer storage and recovery).
- Determine water right requirement to use RW for potable use.
- Secure necessary water and environmental permits.
- Design and construct the chosen RW potable supply option.

Measure RW production and use. The City will accurately track RW production, use, and Santa Fe River discharges.



Implementing Actions:

- Develop a program to more accurately quantify RW use. The program may include RW meter reading and calibration requirements, standard RW recording and calculation procedures, and additional meters.
- Build a cooperative RW meter calibration program wherein qualified Public Utilities staff members calibrate meters of RW users for a nominal fee.
- Annually calculate unaccounted RW and if necessary identify ways to reduce RW losses.



8.2 Economic Theme

Value RW as a municipal asset. Currently, water and wastewater rate payers subsidize non-paying RW uses. As was recommended in the 2003 WRATF report, an equitable economic model entails all facilities benefiting from the RW paying for the use of the resource.

Implementing Actions:

- Require all RW users to pay equitably for the resource.

Use RW to generate revenue. Currently, the City's wastewater users through their payment of wastewater rates fund the collection and production of RW. The current RW pricing is not consistent (varies from no charge to \$3.20 per 1,000 gallons of RW). Revenues collected by the sale of additional RW could be used to further defray treatment costs. One of the largest RW revenue sources, Las Campanas Golf Course, will no longer be paying \$300,000 to \$400,000 annually to the WWD beginning in 2012. Figure X graphically displays the revenues that could be obtained if only 50 percent of the RW was purchased at the \$3.03/1,000 gallon rate, the recent revenues from Las Campanas and the anticipated revenues for all other sources.

Implementing Actions:

- The true cost and value of RW should be identified. Determine the historic, current and future capital cost for producing RW, managing RW use, the RW opportunity cost (either the market value or the value to City for other uses), and the RW economic value. Include factors like cost avoidance, recreational and environmental services, and aquifer sustainability.
- Determine a RW rate structure that considers the various economic factors above. The rate factor may differ for different types of users (municipal, regional governmental, federal government, commercial, etc.), but the program should be systematic and transparent rather than arbitrary.
- Seek compensation for RW released to the Santa Fe River explicitly for the benefit of users downstream.
- Claim and market the RW stored in the aquifer near the WWTP from RW passively infiltrating via the Santa Fe River.



Seek financial assistance to implement recommendations of this plan. Many of the implementing actions in this Plan require financial resources to implement. Some funding may be available within current City departmental budgets; much will need to be secured through local, state, federal and non-profit organizations grants and loans.

Implementing Actions:

- Seek grants and low-cost loans to implement the recommendations herein from federal (e.g. Bureau of Reclamation Title 16, WaterSMART program), state (e.g. Water Trust Board, 319) and non-profit (e.g. River Network) sources.



8.3 Water Quality Theme

Produce high quality RW. The City's WWTP produces RW that meets the state regulatory requirements and federal guidelines. Periodically and as needed, the WWTP upgrades its processes and facilities to meet new regulatory requirements and enhance the quality of RW produced. The development of membrane filtration technologies over the past 10-years has resulted in a movement towards higher quality RW effluent.

Implementing Actions:

- Monitor the development of RW discharge standards in other states and monitor EPA's adoption of more stringent guidelines in the future.
- In order to better assure meeting bacteriological discharge requirements and to minimize potential adverse health effects due to exposure of RW, consider appropriate advanced treatment technologies or improvements to the multi-media filtration and disinfection unit operations. This would also permit the WWD RW to meet Class 1A Reclaimed Wastewater rather than the current Class 1B standard.
- Support existing household pharmaceutical disposal program to decrease pharmaceutical products in the City's wastewater, RW, and Santa Fe River.

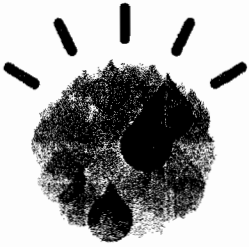
Minimize the public health risk in land application of RW. Because of inherent RW exposure risk, federal and state regulations dictate under what conditions RW can be used for irrigation. While the WWD produces RW and is required to meet the conditions of the discharge permit, the division does not oversee the land application

Implementing Actions:

- Cooperate with RW land applicators to assure discharge permit compliance.
- Review and update protocols and Best Management Practices for municipal entities that irrigate with RW.
- Collect and centralize use data, compliance reports and other RW use related documents from municipal RW users.
- Add release of liability statements into contracts with non-municipal RW irrigators.



8.4 Operational and Management Theme



Optimize existing RW delivery capacity. Currently, no standard operating procedure exists on how to allocate daily RW among the users. Additionally, some key infrastructure may assist in the ability to meet multiple, often competing demands for RW. Enhanced management allows better use of the resource.

Implementing Actions:

- Develop an RW diversion and delivery protocol identifying which users can divert when, how much, and for how long.
- Conduct a RW infrastructure improvement study to determine how existing or new RW infrastructure can be optimized to best supply existing and future (e.g. SWAN Park) RW users.
- Consider how increased storage (e.g. the 2 million gallon RW tank), other infrastructure improvements, automation, variable frequency pumping, etc. can be used to achieve equity, timing, and shortage-sharing objectives.
- Identify if the Las Campanas RW pipeline can assist in creating system redundancy or optimization and seek necessary use agreements.

Develop necessary and equitable contracts, resolutions, and ordinances. Current RW users receive RW under varying circumstances, rates, and conditions.

- Unify contract provisions, renewal processes, and RW rates.
- Seek compensation for all RW use. In instances where the municipality or another entity does not pay for RW, recognize the value of the RW being provided
- Streamline process for short-term contract renewal.
- Seek short-term, non summer month RW contracts.

Determine shortage sharing and emergency guidelines. Currently, no guidelines exist on how to curtail RW during shortages or emergencies, as recommended within the WRATF Final 2003 Report. Additionally, no provisions exist for back-up water supply for some uses.

Implementing Actions:

- Develop criteria, strategies, processes, and protocols for addressing shortages, water quality changes, back-up supplies, and emergencies to better adapt to future conditions.
- Revise RW use agreements to include sharing shortage parameters, water quality constraints, and other circumstances of non-diversion.

Build a RW reserve into RW allocation. A RW water reserve would help mitigate the natural daily and seasonal fluctuations that occur in RW production. The reserve would also provide some water for unforeseen conditions.

Implementing Actions:



- Allocate between 1-5% of the total monthly RW and/or RW storage to a reserve account, perhaps storing water in the regional aquifer



8.5 Stewardship Theme

Provide adequate flows to the Santa Fe River. The City recognizes the environmental, recreational and water quality services provided by the Santa Fe River and specifically the Santa Fe Rural Protection Zone.

Implementing Actions:

- Determine the minimum and target flow requirements to maintain the ecological services provided by the Rural Protection Zone.

Collaborate and coordinate with downstream agricultural communities and other stakeholders. The City recognizes that the RW from the WWTP provides water that downstream agriculture has become dependent upon since natural spring flows in the area have decreased.

Implementing Actions:

- Provide WWTP output data regularly to interested parties.
- Collectively develop and implement a stream flow monitoring program to better understand water budgets in the La Cienegilla, La Cienega, and La Bajada region.
- Convene a public workshop with water right experts to develop a common understanding of the water rights issues and to better understand the City's legal obligations.
- Develop an operating arrangement with daily, monthly and annual stream flow targets, within the adopted RW priority system.
- Participate in planning processes of area communities, encourage rural-urban relationships, and seek multi-party win-win solutions to issues identified.



8.6 Green Theme

Use RW efficiently. Like all others water resource, RW is precious. By using RW efficiently, the number of RW uses can expand.

Implementing Actions:

- Initiate a required irrigation efficiency analysis for each RW user. Consider the efficacy of converting irrigated recreational areas to artificial turf and the use of more advanced irrigation technology.
- Institute annual, monthly and daily water budgets and maximums for each RW user and, to the extent possible, define the use quantity, either by contract or governing body action.
- Provide incentives and resources for RW users to increase efficiency.



- Identify locations where irrigation of RW can be reduced or eliminated (e.g. implementing more efficient irrigation systems, by monitoring application rates by evapotranspiration (ET) or by artificial turf replacement)

Use low or renewable energy sources for RW transmission and distribution. Some RW uses can be served primarily via gravity. Others require some or significant pumping. As little energy as possible should be used to transmit RW from the WWTP to its use location.

Implementing Actions:

- Size infrastructure to optimize energy use.
- Promote RW uses that require less transmission power.

Build resiliency and adaptation into RW planning and management. While RW production is relatively immune to the impacts of climate change, RW irrigation demand will likely increase under hotter and drier conditions. The management of RW needs to plan for, adapt, and thus become more resilient to projected climate change effects.

Implementing Actions:

- Determine projected climate change impacts on RW demand and build into RW budgets, management, and operations procedures.
- Bank excess RW in local aquifers, particularly during the fall and spring shoulder months and throughout the winter.